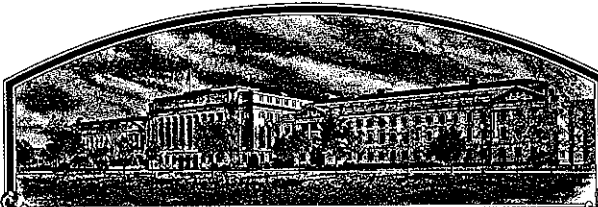


No.

8300104



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nickerson American Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS SEEDS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS PROVIDED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Magnum'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 30th day of August in the year of our Lord one thousand nine hundred and eighty-five.

Attest

*Kenneth M. ...*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*John R. Blum*  
Secretary of Agriculture

# APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY

SW73-16A-78

1b. VARIETY NAME

Magnum

FOR OFFICIAL USE ONLY

PV NUMBER

8300104

2. KIND NAME

Soft red winter wheat

3. GENUS AND SPECIES NAME

Triticum aestivum

FILING DATE

4/5/83

TIME A.M.

9:30

XXX

FEE RECEIVED

\$ 1,000

\$ 500.00

DATE

4/5/83

7/16/85

4. FAMILY NAME (BOTANICAL)

Gramineae

5. DATE OF DETERMINATION

1) Sept., 1978

2) Sept., 1981

6. NAME OF APPLICANT(S)

NICKERSON

North American Plant Breeders, Inc.

7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

5201 Johnson Dr., P.O. Box 2955  
Mission, KS 66201

8. TELEPHONE AREA CODE AND NUMBER

913-384-4940 KS

303-532-3721 CO

317-563-3111 IN

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)

Partnership

10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION

Stamford, CT

11. DATE OF INCORPORATION

March 1973

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:

R.E. HEINER

G.E. Dixon

P.O. Box 2955

Mission, KS 66201

R.E. Heiner or C. Bruns

P.O. Box 30

Berthoud, CO 80513

DR. ROY E. MISKIN

R.R. 2, Box 411

BROOKSTON, IN

47923

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)

☒ 13B. Exhibit B, Novelty Statement.

☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)

☒ 13D. Exhibit D, Additional Description of the Variety.

☒ 13E. Exhibit E, Quality Data.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☒ YES ☐ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

March 16, 1983  
(DATE)

March 21, 1983.  
(DATE)

R.E. Heiner  
(SIGNATURE OF APPLICANT)

G.E. Dixon  
(SIGNATURE OF APPLICANT)

## EXHIBIT A

## ORIGIN AND BREEDING HISTORY OF MAGNUM

PEDIGREE: Blueboy/W504//Arthur 71

DATE OF CROSS: Fall, 1972

BREEDING HISTORY:

The breeding history began in the Fall of 1972 with a cross between Blueboy and W504. The resulting F<sub>1</sub> was then crossed to Arthur 71 in the spring of 1973. The F<sub>1</sub> was increased in the field in 1974. F<sub>2</sub> selections were made in 1975 in the field and advanced by single seed descent through the F<sub>3</sub> and F<sub>4</sub> generations in 1976. Single F<sub>5</sub> head-rows were grown in 1977 and selections were made. From the 1978 preliminary yield trials, a line was identified which became SW73-16A-78. In 1979, this line was tested at several locations in intermediate yield trials. Two hundred seventy-two head-rows were planted in 1980 at Brookston, IN and 200 of these were selected and bulked to produce breeders seed. Approximately 11,500 pounds of Foundation seed were produced in 1982.

Magnum is uniform and stable. Less than 1% of the plants were rogued from Foundation fields. Approximately .2% of the plants were three to ten centimeters taller than Magnum, .1% were short awned plants, .1% tall awned plants, .1% bronze chaff, and .01% purple straw plants. These off-types may be found in subsequent generations of Magnum in a frequency up to .6%.

## EXHIBIT B

## NOVELTY STATEMENT

Magnum is most similar to the soft red winter wheats Arthur 71 and McNair 1003. However, it can be distinguished on the following morphological characteristics:

- Magnum has an oblique shoulder shape. McNair 1003 has a round shoulder shape. (See "Registration of McNair 1003"; Vol. 20, page 828.) Arthur 71 has a round shoulder shape. (PVPO Patent #72084.)
- Magnum's glumes at maturity are medium in length, and medium in width. McNair 1003's glumes at maturity are long in length, and wide in width. (See "Registration of McNair 1003"; Vol. 20, page 828.)
- Magnum has a fawn phenol reaction, color category #2. McNair 1003 has a brown phenol reaction, color category #4. Arthur 71 has a brown phenol reaction, color category #4. (PVPO patent #72084.)
- Magnum has a more nodding head character at maturity than McNair 1003.
- Magnum has a twisted flag leaf. Arthur 71 has a flag leaf that is not twisted. (PVPO patent #72084.)
- Magnum has an awnleted head. Arthur 71 has an apically awnleted head. (PVPO patent #72084.)
- Magnum displays no hairs on the auricles. Arthur 71 displays hairs on the auricles. (PVPO patent #72084.)
- Magnum has a middense head. Arthur 71 has a lax head. (PVPO patent #72084.)

Magnum

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-6  
(2-15-73)UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
GRAIN DIVISION  
HYATTSVILLE, MARYLAND 20782EXHIBIT C  
(Wheat)OBJECTIVE DESCRIPTION OF VARIETY  
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

NICKERSON  
North American Plant Breeders, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

5201 Johnson Drive, P.O. Box 2955  
Mission, KS 66201

FOR OFFICIAL USE ONLY

PVPO NUMBER

8300104

VARIETY NAME OR TEMPORARY  
DESIGNATION

MAGNUM

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g.  or ) when number is either 99 or less or 9 or less.

## 1. KIND:

 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

## 2. TYPE:

 1 = SPRING 2 = WINTER 3 = OTHER (Specify)  1 = SOFT 3 = OTHER (Specify)  
2 = HARD 1 = WHITE 2 = RED 3 = OTHER (Specify)3. SEASON - NUMBER OF DAYS FROM  TO: FIRST FLOWERING January 1  LAST FLOWERING

## 4. MATURITY (50% Flowering):

 NO. OF DAYS EARLIER THAN  1 = ARTHUR 2 = SCOUT 3 = CHRIS  
 NO. OF DAYS LATER THAN  4 = LEMHI 5 = NUGAINES 6 = LEEDS  
7 = Oasis

## 5. PLANT HEIGHT (From soil level to top of head):

 CM. HIGH  
 CM. TALLER THAN  1 = ARTHUR 2 = SCOUT 3 = CHRIS  
 CM. SHORTER THAN  4 = LEMHI 5 = NUGAINES 6 = LEEDS  
7 = Oasis

## 6. PLANT COLOR AT BOOTING (See reverse):

 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN  1 = YELLOW 2 = PURPLE

## 8. STEM:

 Anthocyanin: 1 = ABSENT 2 = PRESENT  Waxy bloom: 1 = ABSENT 2 = PRESENT  
 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT  Internodes: 1 = HOLLOW 2 = SOLID  
 NO. OF NODES (Originating from node above ground)  CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

## 9. AURICLES:

 Anthocyanin: 1 = ABSENT 2 = PRESENT  Hairiness: 1 = ABSENT 2 = PRESENT

## 10. LEAF:

 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (Specify)  Flag leaf: 1 = NOT TWISTED 2 = TWISTED  
 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT  Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT  
 MM. LEAF WIDTH (First leaf below flag leaf)  CM. LEAF LENGTH (First leaf below flag leaf)

FORM GR-470-6 (REVERSE)

## 11. HEAD:

☒ 3 Density: 1 = LAX 2 = DENSE 3 = middense  
 Ave. 50 mm

☒ 3 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

☒ 1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
 5 = BROWN 6 = BLACK 7 = OTHER (Specify):

☒ 7 ☒ 7 CM. LENGTH ☒ 1 ☒ 0 MM. WIDTH

## 12. GLUMES AT MATURITY:

☒ 2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

☒ 2 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

☒ 2 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

☒ 1 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

## 13. COLEOPTILE COLOR:

☒ 1 1 = WHITE 2 = RED 3 = PURPLE

## 14. SEEDLING ANTHOCYANIN:

☒ 1 1 = ABSENT 2 = PRESENT

## 15. JUVENILE PLANT GROWTH HABIT:

☒ 2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

## 16. SEED:

☒ 1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

☒ 2 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

☒ 2 Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

☒ 3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify):

☒ 5 ☒ 7 MM. LENGTH ☒ 3 ☒ 4 MM. WIDTH ☒ 3 ☒ 6 GM. PER 1000 SEEDS

☒ 1 Check: 1 = ROUNDED 2 = ANGULAR

☒ 1 Brush: 1 = NOT COLLARED 2 = COLLARED

## 17. SEED CREASE:

☒ 1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

☒ 1 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

## 18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☒ 2 STEM RUST (Races) ☒ 2 LEAF RUST (Races) ☒ 0 STRIPE RUST (Races) ☒ 0 LOOSE SMUT

☒ 3 POWDERY MILDEW ☒ 0 BUNT ☒ 2 OTHER (Specify) SBMV ☒ 3 BYDV, Septoria, Rhizoctonia

## 19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☒ 0 SAWFLY ☒ 0 APHID (Bydv.) ☒ 0 GREEN BUG ☒ 0 CEREAL LEAF BEETLE

☒ 0 OTHER (Specify) HESSIAN FLY RACES: ☒ 0 GP ☒ 0 A ☒ 3 B ☒ 2 C

☒ 2 D ☒ 0 E ☒ 0 F ☒ 0 G

## 20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Arthur 71	Seed size	Arthur 71
Leaf size	McNair 1003	Seed shape	Arthur 71
Leaf color	McNair 1003	Coleoptile elongation	McNair 1003
Leaf carriage	McNair 1003	Seedling pigmentation	McNair 1003

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

## EXHIBIT D

## ADDITIONAL DESCRIPTION OF MAGNUM

Magnum is a soft red winter wheat tested as SW73-16A-78. It was bred and developed by North American Plant Breeders.

Magnum is an intermediate height semidwarf variety with good straw strength, intermediate to early maturity and good winter-hardiness. Milling and baking properties are good.

Juvenile plant growth habit is semi-erect. Plant color at boot is green with a recurved, twisted flag leaf. Head shape is tapering, middense, awnleted and head color is white at maturity. Glumes are of medium length and medium width with oblique shoulders and obtuse beaks. Seed shape is ovate with rounded cheeks. Seed crease width is narrow and depth is shallow.

Magnum is adapted to the central and northern soft wheat region, primarily that area from Tennessee north to Michigan and from Missouri east through Ohio.

## NORTH AMERICAN PLANT BREEDERS QUALITY DATA - 1981

Location	Variety	Milling			Baking			Scores	
		Test Wt. (#/bu.)	% Break Flour	% Flour Yield	% Flour Protein	Cookie Diameter (mm)	Top* Grain	Mill	
								Bake	Bake
Brookston, IN	Magnum Arthur 71	60.5	44.8	73.8	10.9	90.0	7	B	A
		59.3	45.8	75.9	12.5	88.0	6	B	D
Booneville, IN	Magnum Arthur 71	59.0	41.2	70.1	11.6	89.8	6	C	C
		58.9	41.9	72.7	12.0	88.8	7	C	C
Pana, IL	Magnum Arthur 71	60.7	41.1	70.8	11.8	87.8	8	C	B
		59.9	42.9	73.5	11.9	87.5	8	C	B
Findlay, OH	Magnum Arthur 71	60.3	44.3	73.8	13.0	89.0	6	B	C
		58.1	39.6	70.8	13.7	86.0	6	C	D
Chillecothe, OH	Magnum Arthur 71	56.4	46.1	71.2	9.8	90.0	7	B	A
		56.8	45.7	73.2	11.0	91.3	7	B	A
Average	Magnum Arthur 71	59.4	43.5	71.9	11.4	89.3	6.8	B	B
		58.6	43.2	73.2	12.2	88.2	6.8	C	C

\*Ratings 1-10; 1 = Excellent

Letter Grades: A = Excellent, B = Good, C = Acceptable, D = Questionable

Quality characteristics of Magnum compared to Arthur 71 over these locations indicate that  
 → Magnum has superior overall milling & baking quality.